

REMARKS

Reconsideration and withdrawal of the objections and rejections set forth in the above-mentioned Official Action in view of the foregoing amendments and the following remarks are respectfully requested.

Claims 1-3, 5, 6, and 8-20 are now pending in the application, with Claims 1, 16 and 20 being independent. Claims 4 and 7 have been cancelled without prejudice or disclaimer of the subject matter recited therein. Claims 1-3, 5, 6, 8-12, 14 and 16-20 have been amended herein.

Initially, Applicants request that the Examiner consider the documents cited in the Supplemental Information Disclosure Statement filed March 28, 2006, and indicate such consideration by initialing and returning a copy of the Form PTO-1449 provided therewith.

Applicants note with appreciation the indication that Claims 5, 6, 8, 12, 13 and 19 recite allowable subject matter. However, because the claims on which Claims 5, 6, 8, 12, 13 and 19 depend are believed to be patentable for the reasons discussed below, these dependent claims will not be rewritten in independent form at this time.

Claims 1-4, 7, 9, 10, 14-16, 18 and 20 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 6,231,156 (Ono). Claims 11 and 17 were rejected under 35 U.S.C. § 103 as being unpatentable over Ono in view of U.S. Patent No. 6,382,764 (Shimoda). These rejections are respectfully traversed.

As recited in independent Claim 1, the present invention relates to an inkjet printing apparatus having a printhead with an orifice surface including a plurality of orifice groups each having a plurality of orifices for discharging ink. The apparatus includes cleaning means and cleaning control means. The cleaning means cleans the orifice surface. The cleaning control means causes the cleaning means to execute a cleaning operation in accordance with ink discharge counts of the plurality of orifice groups. Respective ink discharge counts, corresponding to respective orifice groups at both ends of the plurality of orifice groups, required to execute the cleaning operation are greater than an ink discharge count, corresponding to another orifice group different from the orifice groups at both ends, required to execute the cleaning operation.

As recited in independent Claim 16, the present invention relates to a cleaning control method for an inkjet printing apparatus having a printhead with an orifice surface including a plurality of orifice groups each having a plurality of orifices for discharging ink, including a cleaning step of cleaning the orifice surface, and a cleaning control step of causing the cleaning step to execute a cleaning operation in accordance with ink discharge counts of the plurality of orifice groups. Respective ink discharge counts, corresponding to respective orifice groups at both ends of the plurality of orifice groups, required to execute the cleaning operation are greater than an ink discharge count, corresponding to another orifice group different from the orifice groups at both ends, required to execute the cleaning operation .

As recited in independent Claim 20, the present invention relates to an inkjet printing apparatus having a printhead with an orifice surface including a plurality of orifice groups each having a plurality of orifices for discharging ink, and cleaning means for cleaning the orifice surface. The apparatus includes storage means and cleaning control means. The storage means stores, for each of the plurality of orifice groups, information regarding an ink discharge amount discharged from the orifice group. The cleaning control means causes the cleaning means to execute a cleaning operation when the ink discharge amount corresponding to the information stored in the storage means reaches a predetermined amount. Respective ink discharge amount, corresponding to respective orifice groups at both ends of the plurality of orifice groups, required to execute the cleaning operation are greater than an ink discharge amount, corresponding to another orifice group different from the orifice groups at both ends, required to execute to the cleaning operation.

Ono relates to an ink jet printing apparatus that effects printing with a plurality of printing heads including one printing head for ejecting a processing liquid that makes ink insoluble. A respective number of ejections from each printing head is counted. A recovery process, such as wiping or the like, is performed when the counted value of the printing head exceeds a predetermined value. A threshold level is set to increase at greater distances between a printing head for ejecting ink and the printing head for ejecting the processing liquid. In the embodiment of Figure 1A, the black printing 1k head is adjacent the processing liquid printing head 1s, with the remaining printing heads being further

away from the processing printing head in the order of cyan 1c, magenta 1m and yellow 1y. Thus, at least one of the end heads, the yellow head, has the highest threshold level and would require the highest discharge count.

Regardless of the orientation of the printing heads, Ono cannot be said to disclose or suggest at least that respective ink discharge counts or amounts, corresponding to respective orifice groups at both ends of a plurality of orifice groups, required to execute the cleaning operation are greater than an ink discharge count or amount, corresponding to another orifice group different from the orifice groups at both ends, required to execute the cleaning operation, as is recited in independent Claims 1, 16 and 20.

Thus, Ono fails to disclose or suggest important features of the present invention recited in the independent claims.

Shimoda has been reviewed, but is not believed to remedy the deficiencies of Ono noted above with respect to the independent claims.


Thus, independent Claims 1, 16 and 20 are patentable over the citation of record. Reconsideration and withdrawal of the §§ 102 and 103 rejections are respectfully requested.

For the foregoing reasons, Applicants respectfully submit that the present invention is patentably defined by independent Claims 1, 16 and 20. Dependent Claims 2, 3, 5, 6, 8-15 and 17-19 are also allowable, in their own right, for defining features of the present invention in addition to those recited in their respective independent claims. Individual consideration of the dependent claims is requested.

Applicants submit that the present application is in condition for allowance. Favorable reconsideration, withdrawal of the objections and rejections set forth in the above-noted Office Action, and an early Notice of Allowability are requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,


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